

SYSTEM AND METHOD FOR DYNAMICALLY GENERATING WEB DOCUMENT CONTENT USING A RULES-BASED ENGINE AND IMPLICIT TEMPLATE HIERARCHY

Abstract

- 5 A system and method for dynamically generating Web content using a
parse tree is described. A template describing a dynamically generated Web page
is built. The template includes a script written in a tag-delimited page description
language. One or more markers included within the template each indicate a
relative location within the Web page for dynamic content insertion. The
10 hierarchical nature of the page description language is used to infer a set of
display regions, which are referenced by a parse tree. The parse tree includes a
plurality of nodes structured into levels. Each node corresponds to structural tags
specified within the script. Each successive level represents a further nesting of
the structural tags within the script. A controller program invokes a document
15 engine and specifies a particular template. Each marker may be substituted with
dynamic content zero, one or several times each. The document engine accepts
substitution requests from the controlling program and implements specific
inclusion rules that ensure well-formed output documents. The dynamic content
is inserted into the display region for the substituted marker. Each node located in
20 a level of the parse tree previous to the node corresponding to the substituted
marker is processed. The output structure is scanned and the document is
rendered with the dynamic content included therein.